

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/097, 035 06/12/98 KROM

J 9608042

EXAMINER

IM22/1230

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W/ART UNIT, D PAPER NUMBER

1713
DATE MAILED:6
12/30/99**Please find below and/or attached an Office communication concerning this application or proceeding.****Commissioner of Patents and Trademarks**

| | | |
|------------------------------|--------------------------------------|------------------------------------|
| Office Action Summary | Application No. 09/097,035 | Applicant(s) Krom et al. |
| | Examiner D.R. Wilson | Group Art Unit 1713 |



Responsive to communication(s) filed on Oct 12, 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 1-14 and 21 is/are pending in the application.

Of the above, claim(s) 5, 11, and 12 is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-4, 6-10, 13, 14, and 21 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 4

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION**1. Response to Restriction Requirement**

Applicant's election of the inventions of Group I, Claims 1-14, now 1-14 and 21, in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Response to Election of Species

Applicant's election of the species of a polypropylene and a polybutadiene, and demonstration of the elected species in the example set forth on pages 11-13 of the specification in the same Paper No. 4 is also acknowledged. Applicant's representative, Mr. Scott McColllister affirmed on December 14, 1999 that the ultimate species being elected were (a) a maleic anhydride grafted polypropylene, and (b) a polybutadiene with a terminal amino group resulting from the reaction at the end of an anionic polymerization with N-butylidenebenzylamine, i.e., the exemplified species. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 5 and 11-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected specie of the invention.

3. Rejection Under 35 USC § 112, First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

a. Claims 1-4, 6-10, 13-14 and 21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions comprised of the reaction product from the first and second polymers, does not reasonably provide enablement for a reaction product comprising the first and second polymer. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. Based on the specification it appears that applicants invention is compositions comprised of the reaction product from the first and second polymers. However, this is not the language of the claims which need to be suitably modified.

OK
feel 1/21

b. Claims 1-4, 6-10, 13-14 and 21 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for first polymers which are polyolefins, does not reasonably provide enablement for other first polymers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The specification gives no suggestions of other polymers which could function as the first polymer or how the functionalization of such other polymers is to be achieved. Undue experimentation would be required to determine the scope of the operable inventions as claimed.

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4. Rejection Under 35 USC § 112, Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-3, 7 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 2 is indefinite because said "carboxylic acid" or "carboxylic anhydride" is defined as a group not a compound. Thus, said group is better defined as a radical of the stated compounds, or alternatively as being derived from maleic acid or maleic anhydride (as for instance is done in Claim 10). *NJ*

b. Claim 3 is indefinite because there is no such thing as a "C₂" α-olefin. If *O*

Claim 5 was under consideration it would be rejected on the same basis.

c. Claim 7 and 9 are indefinite because it is not known what a polymer comprising polybutadiene signifies. If the polymer comprises something else, then it is a polymer composition and should be referenced as such. If applicant means that the polymer comprises butadiene units, then that is the language which should be used (as in Claim 8). *ND*

d. Claim 13 is indefinite because it is not clear what is meant by an "elastomeric polymer", or what is enabled by the specification in this regard. Elastomeric materials would generally mean something which has been cross-linked, e.g., Whelan page 129.

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However, it is not seen that the specification enables using cross-linked second polymers to make the claimed reaction products.

5. Rejection Under 35 USC § 102 (b)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-10, 13-14 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Coran.

Coran discloses and claims compositions which anticipate the instant claims (Claim 8). Acrylonitrile rubbers with 80 wt.% of butadiene would be immediately envisioned because Coran teaches that they include butadiene copolymers with as little as 20 wt.% of acrylonitrile (col. 2, lines 49-52). Although Coran is not directed to the elected species of the amine-terminated second polymer, it is included because it anticipates claims under consideration.

6. Rejection Under 35 USC § 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-10, 13-14 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berta in view of Stayer, Jr. and Admissions by Applicant.

Berta discloses graft copolymers of polypropylene with polybutadiene grafts, wherein the polypropylene is first modified with an anhydride monomer such as maleic anhydride, which is then reacted with a functionalized polymer reactive with the anhydride groups exemplified by a hydroxy-terminated polybutadiene (col. 4, line 62, to col. 5, line 8 and col. 5, lines 16-25). Berta is deficient in not teaching that an amine-terminated polybutadiene, and specifically the elected specie of N-butyldene-benzylamine, can be used for this purpose.

In as much as Berta also teaches that amine-terminated polymers such as amine-terminated polyalkylene glycols and olefin/alkylene oxide polymers can be used as functionalized polymers to react with the maleinated polypropylene, it would have been obvious to one of ordinary skill in the art to use an amine-terminated polybutadiene with the expectation of achieving a polypropylene grafted with polybutadiene which is equivalent for the intended purpose to that prepared from the hydroxy terminated polybutadiene. Amine terminated polybutadienes are known as for instance is taught by Stayer, Jr., which teaches their preparation by reaction of an anionically polymerized polybutadiene with an imine (e.g., Claims 1-2). It would have been obvious to use the amine terminated polybutadienes taught by Stayer, Jr. because they are among the known ones. The imines taught by Stayer, Jr. are generic to the elected specie of N-butyldenebenzylamine, but Stayer, Jr. does not appear to disclose the specific specie. However, in as much as applicant admits that N-butyl-

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idenebenzylamine is a known compound (specification, page 11, lines 2-3), and said compound is within the generic teachings of Stayer, Jr., lacking a showing of criticality for this particular compound it would have been obvious to one of ordinary skill in the art to use such with an expectation of equivalent results.

The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

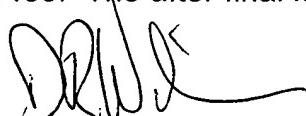
7. Art of Interest/Technological Background

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hesp is of interest because it relates to non-elected species of the invention and could be used in a future rejection.

8. Future Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D.R. Wilson whose telephone number is (703) 308-2398. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, may be reached at (703) 308-2450.

The fax phone number is (703) 305-5408 or 5433. The after final fax number is (703) 305-3599.



D.R. WILSON
PRIMARY PATENT EXAMINER
SECTOR 1700 - ART UNIT 1713